

### **903 WIRE FENCE**

Before fence construction is started, the Inspector and Resident Engineer should study the plans, with special attention being given to right-of-way lines, access control lines, location of gates, cattleguards, flood gates, and angle points in order that the Contractor may be given complete, accurate information necessary to begin fence construction without delay or interruption. The Inspector should know what type of fencing materials and hardware are specified. For example, is barbed wire or barbless wire specified? If game fence is specified, is the bottom wire barbless? Are any special details required for environmental mitigation?

When constructing or reconstructing fence, the Contractor shall be held strictly responsible for any and all damage to private property during or as a result of their operations. This includes losses and accidents caused by such things as loose livestock.

The Inspector must be sure that all fence materials have been certified, tested, and approved. Project samples must be taken as outlined in the Materials Testing Manual as soon as materials are delivered to the project.

Close inspection during construction is necessary to see that posts are driven to the depth and spacing shown in the Standard Drawings. This is especially important where post driving is difficult. After all required line, intermediate, and corner posts have been placed, the wire should be stretched taut and securely fastened to each post. Post concrete should cure 3 days minimum before any fence wire is stretched and tied. After the required strands of wire have been properly placed, the guy wires, sag weights, and other details should be completed as required.

Avoid construction of fence in washes or along bank edges where erosion may destroy the usefulness of the fence. Wing fences at box culverts need not be an extension of the wing line. The alignment of the wing fence can be adjusted away from the channel to keep as much of the fence as possible out of the drainage area. These adjustments will often result in the need to increase the length of the flood gates. Probably the most important consideration is that the gate/end post assemblies are located well away from areas subject to erosion.

The installation of the gates, hinges, and latches should allow them to operate freely. They should open to the full opening size in the direction indicated. The upper post hanger of Type I line fence gates shall be installed so that the gate cannot be lifted and removed.

Carefully check horizontal and vertical angle points to determine whether corner posts or diagonal tension wires are needed.

The clearance between the bottom wire and the ground must be checked since extra posts, sag weights, or special treatment may be needed.

In the past, stones and boulders have been allowed as sag weights. The present requirement is to use only prefabricated 100 pound concrete blocks. This is sometimes necessary to prevent line posts from being pulled out of the ground upon tensioning of the barbed wire or woven wire fabric.

It should be noted that flood gates are to be constructed to the same requirements specified for barbed wire construction, except that the concrete sag weights shall weigh 35 pounds.

Unusual ground conditions should be looked at to determine whether a modification of the standard fence treatment is called for, or if perhaps some fence can be eliminated.

**Inspection Guidelines For Wire Fence And Gates:**

1. Do the following materials conform to the plans and specifications, and are material certifications available for those items requiring them:
  - A. Barbed/woven wire zinc or aluminum coated and of the same type for the entire project (refer to Section 902 of this manual under Materials and Installation Guidelines)?
  - B. Gates?
  - C. Posts?
  - D. Fasteners, hardware?
2. Have adequate measures been taken to protect livestock while building or rebuilding fence?
3. Has fence line been cleared or graded in accordance with the specifications?
4. Are posts driven/set to proper depth, spacing, plumb, and alignment?
5. Has the wire been stretched taut and fastened to each post? Was the wire stretched on the outside of posts around curved areas? Is there only one wire splice per panel?
6. For Type I gates, is the upper post hanger installed so gate cannot be removed?
7. Have the strain and corner posts been installed at all required locations?
8. Has fencing been properly tied into the structures?